Communications Data Link System PCI Production

13 August 2002
Quantico, VA

Multiple Source Interface Processor (MSIP)

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REAL-TIME INFORMATION CORRELATION & DISSEMINATION

Contract Number

M67854-02-C-2019

Prepared For:

Commander
Marine Corps Systems Command
Code C4IAD
2033 Barnett Ave. Suite 315
Quantico, VA 22134-5010

MT-MC-002

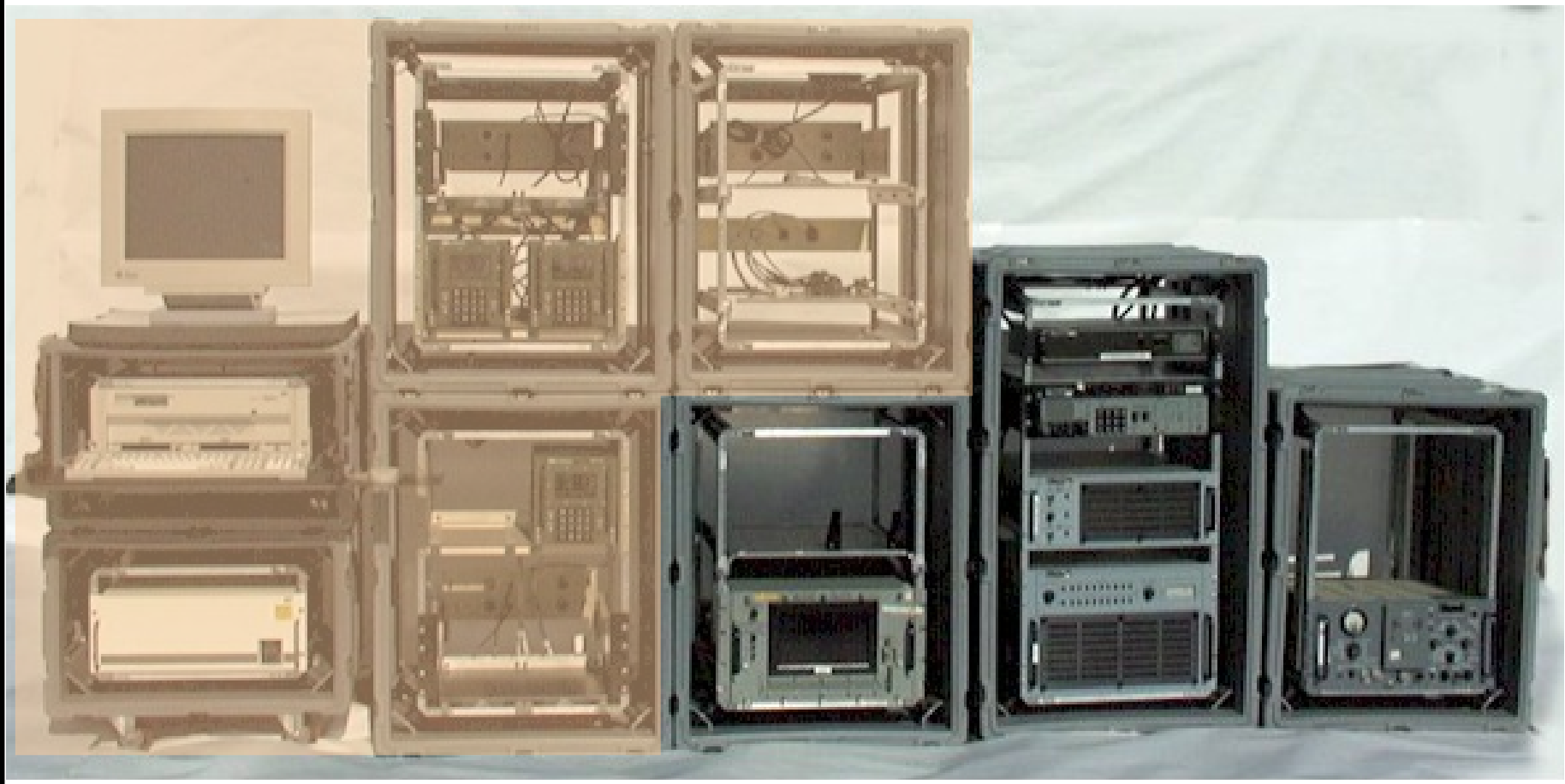
Prepared By:

Mission Research Corporation
Tactical Data Links Group
3875 North Main Street Fort

System Design/Implementation Overview

- Design Objectives
- Mechanical Layout
- System Components
- System Interfaces & Connections
- System Software

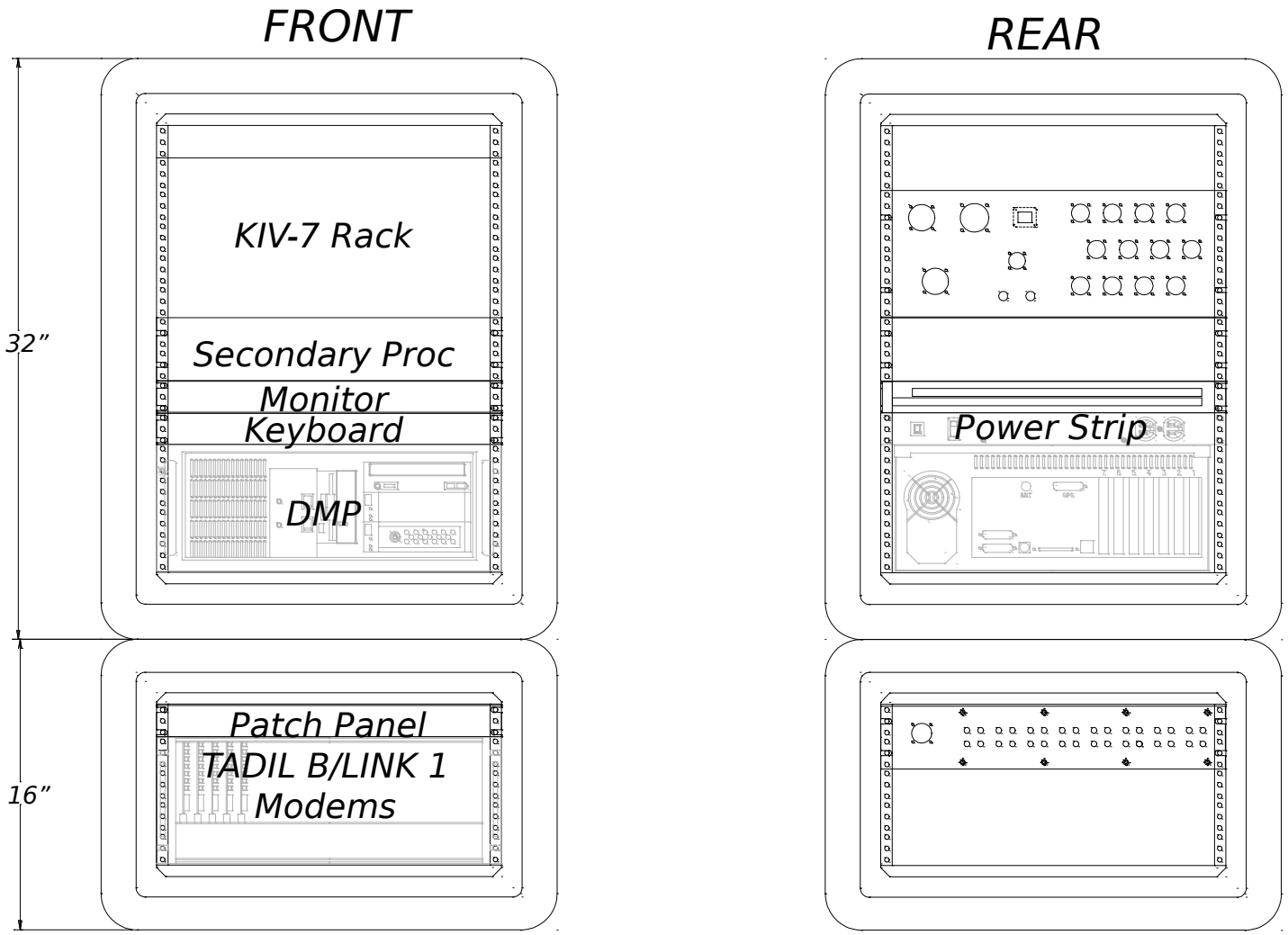
AN/TYQ-101 Technology Refresh



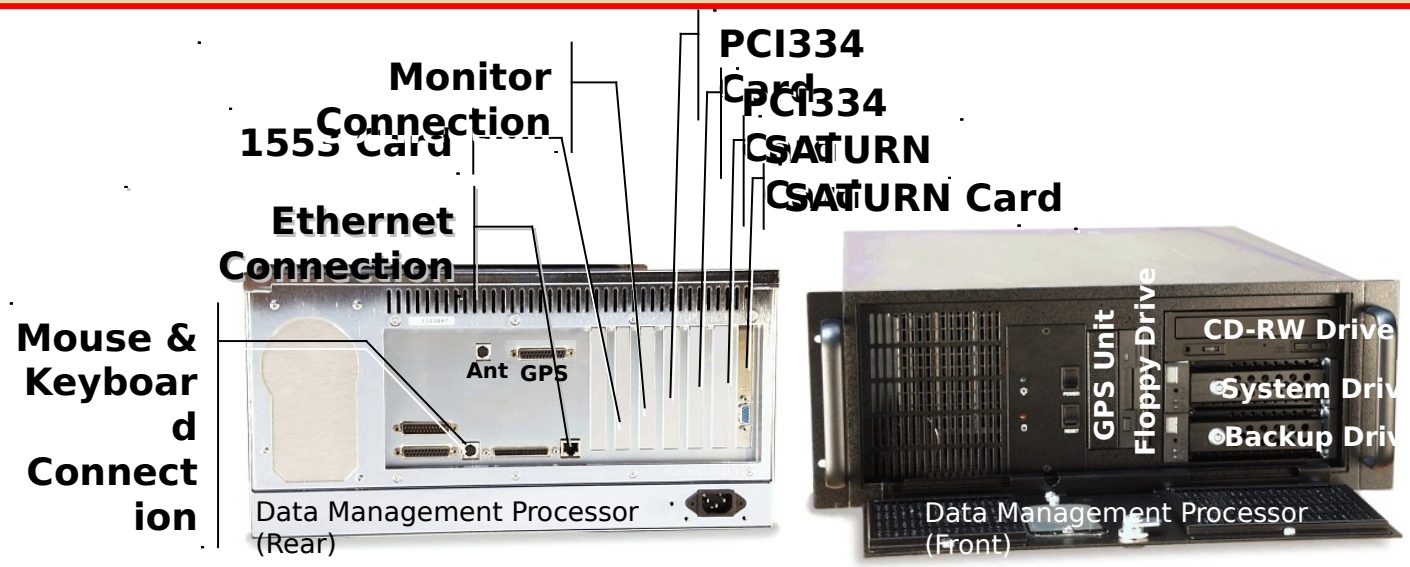
Design Objectives

- **Replace VME Input/Output Cards and Chassis with Compatible PCI I/O Cards and Chassis**
- **Replace KG-84C Cryptos and 1280T Modems**
- **Reduce Weight and Footprint of Existing System**
- **Reduce Maintenance Requirements (Fewer Parts)**
- **Improve Setup Performance**
  - **Accessible Connection Points**
  - **Mil-Style Connectors**
  - **Fewer Inter-Case Connections**
- **Integrate Joint Range Extension Capability**

Mechanical Layout



System Components
DMP Workstation



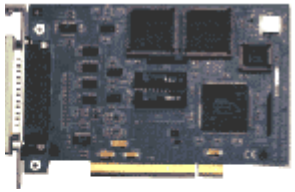
- Sparc AXi Motherboard
- Sparc Processor @ 440MHz
- 1 Gbyte Memory
- 2 Removable Hard Drives (18GBytes Each)
- CD-RW Drive
- 1.44 MByte Floppy (PC Style)
- Creator 3D Graphics Card
- 5 Usable PCI Slots

- Data Management Process
- MSIP Display Application
- TAIDIL J (LAN & Serial)
- TADIL B
- TIBS
- TDDS
- Text
- NATO Link 1
- JRE (1553)

System Components
Circuit Card Assemblies

SBS
ABI-PCI-1
1553 Interface Card
A & B Channels

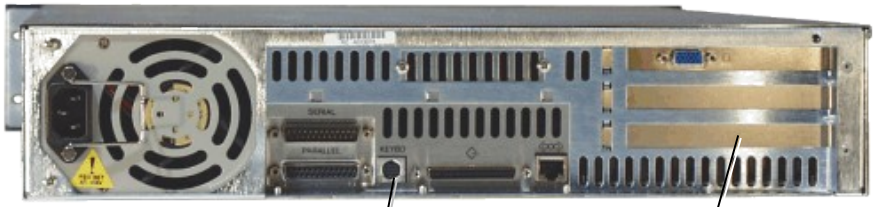
Performance Technologies
PT-PCI334 (RS-232 & RS-422)
Synchronous Serial Interface Card (JRE)
8 Ports Total



Aurora Technologies
SATURN 8250 (2 Each)
Sync/Async Serial Multi Port Controller
16 Ports Total

System Components
Secondary Processor

Secondary Processor
(Front)



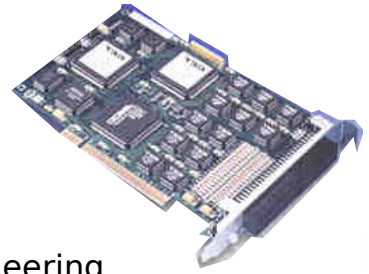
Secondary Processor
(Rear)

Ethernet Connection

NTDS Card

- **Sparc AXi Motherboard**
- **Sparc Processor @ 300MHz**
- **256 Mbyte Memory**
- **1 Removable Hard Drive (18GBytes)**
- **1.44 MByte Floppy (PC Style)**
- **3 Usable PCI Slots**

- **TADIL A**



GET Engineering
NTDS Interface Card (TADIL A)
1 Port

System Components
User Interface

Z Microsystems
Gemini 17” Flat Panel

CTI Electronics
Sun Type5 Compatible Keyboard
With Integrated Trackball (3 Button)

Transit Cases

- **Two Hardigg Cases**
- **14U Rack & 5U Rack Space**
- **26” Rack Depth**
- **Meets Or Exceeds Mil Standards for Ruggedness**
- **Equipment Operates in the Cases**
- **Case Color is Gray**

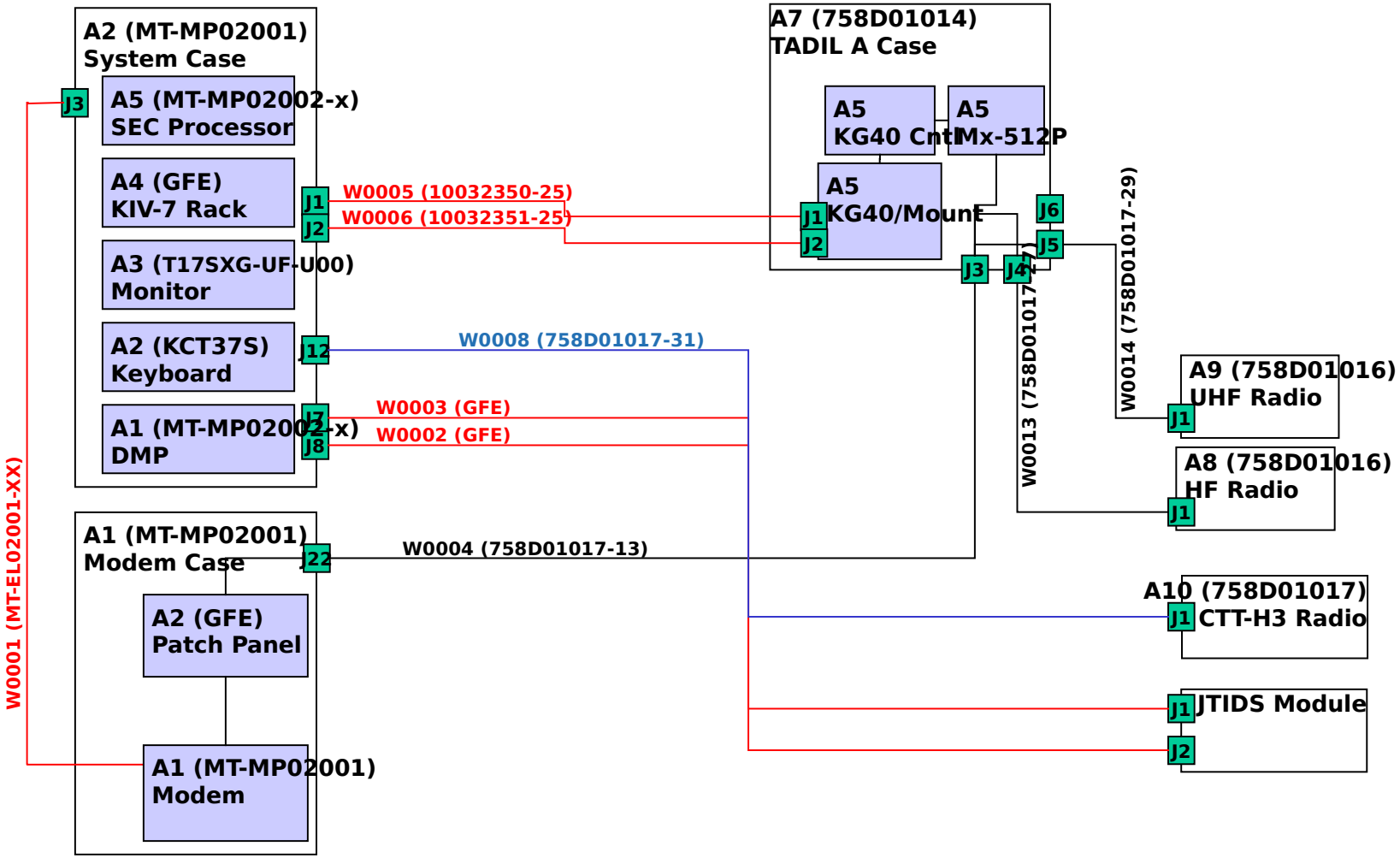
KIV-7/Modem Equipment

HDT Communications
HDTL1-R
Modem Card Chassis

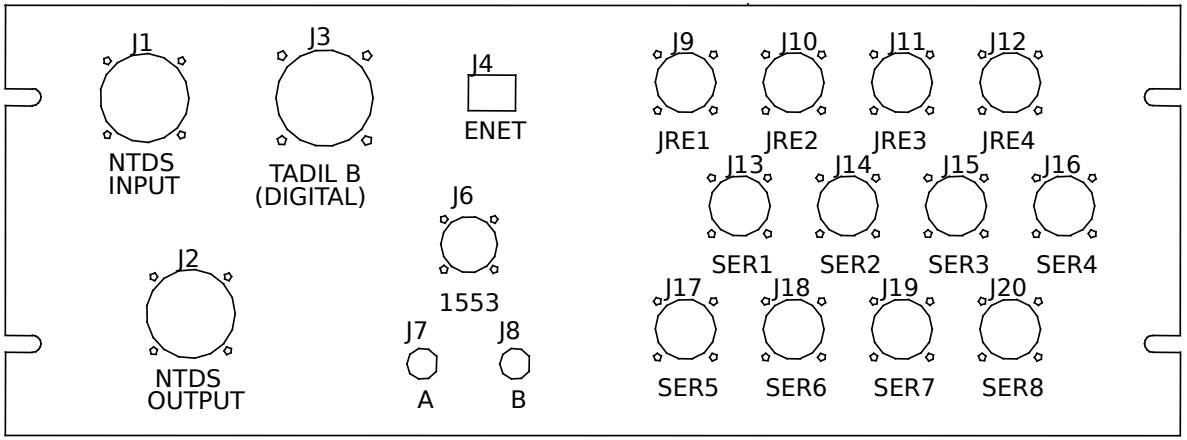
HDT Communications
HDTL1-I (5 Each)
TADIL B/NATO LINK 1 Card

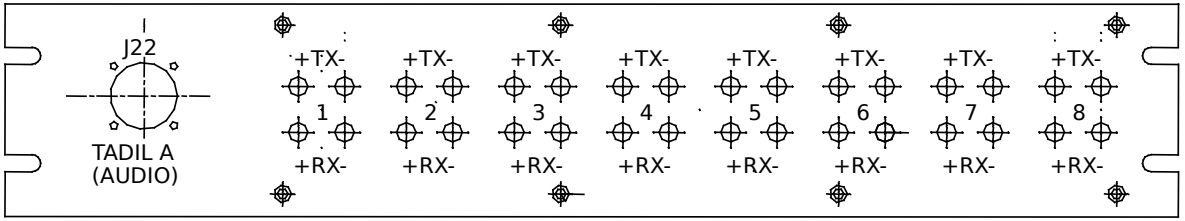
Mykotronix
4061242-0501
KIV-7 Chassis Rack - GFE

TACC System Interconnect



Demarcation Panels

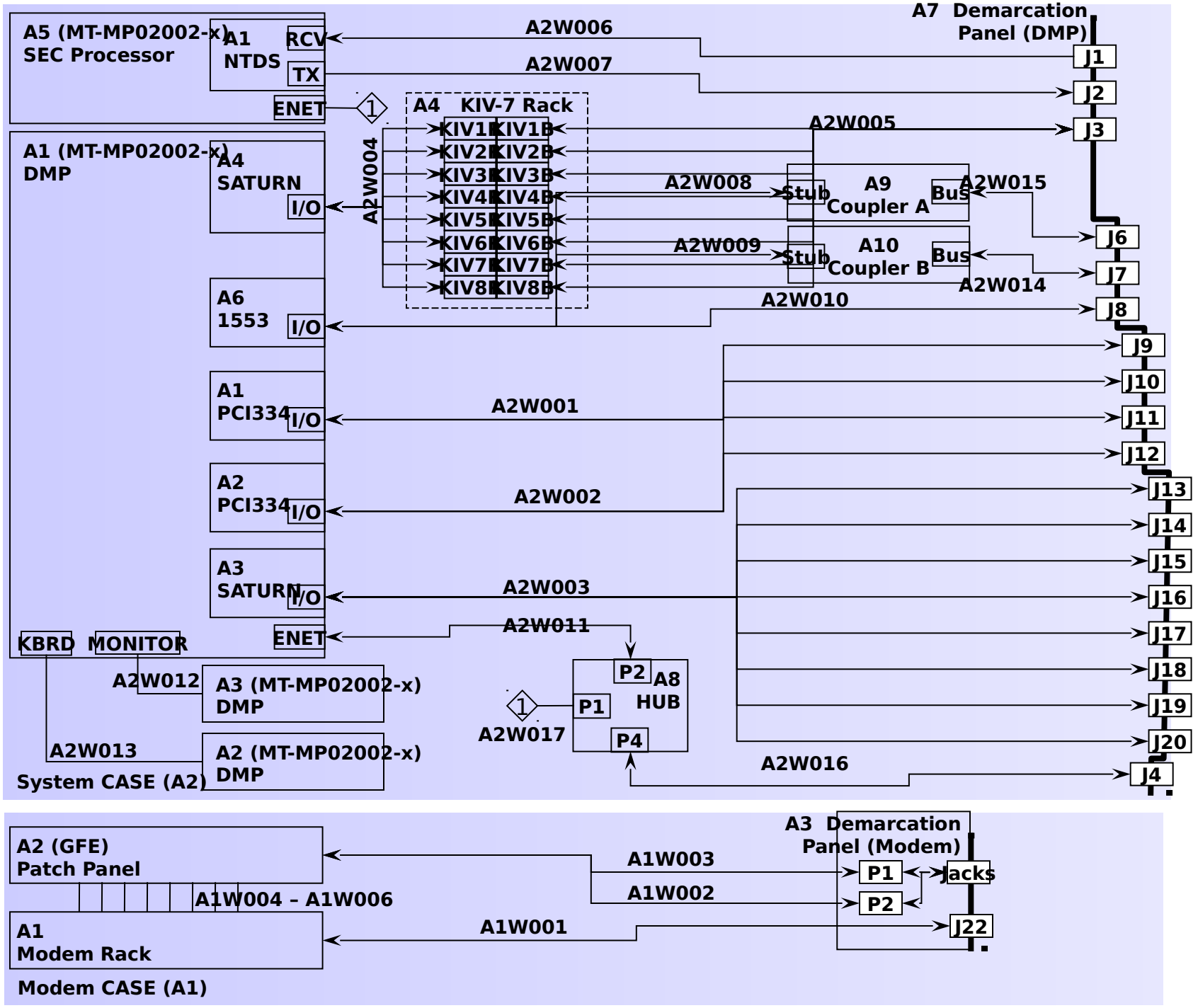




System Case Demarc

- Circular Mil-Style Connectors
  - 38999 Series I Type
  - J1 & J2 Are Series III Type
  - Male Connections (Pins)
- Dust Caps Provide For Each Connector
- Mating Connector & Backshell Provided
- ENET Connector is a Feed-Through Commercial Type RJ-45

Modem Case Demarc


A5 (MT-MP02002-x)
SEC Processor
A1
NTDS
RCV
TX
ENET
A1 (MT-MP02002-x)
DMP
A4
SATURN
I/O
A6
1553
I/O
A1
PCI334
I/O
A2
PCI334
I/O
A3
SATURN
I/O
ENET
KBRD
MONITOR
A2W012
A3 (MT-MP02002-x)
DMP
A2W013
A2 (MT-MP02002-x)
DMP
System CASE (A2)
A2W006
A2W007
A4 KIV-7 Rack
A2W004
KIV1A KIV1B
KIV2A KIV2B
KIV3A KIV3B
KIV4A KIV4B
KIV5A KIV5B
KIV6A KIV6B
KIV7A KIV7B
KIV8A KIV8B
A2W005
A2W008
Stub
A9
Coupler A
Bus
A2W015
A2W009
Stub
A10
Coupler B
Bus
A2W014
A2W010
A2W001
A2W002
A2W003
A2W011
P2
A8
HUB
P1
P4
A2W017
A2W016
A7 Demarcation
Panel (DMP)
J1
J2
J3
J6
J7
J8
J9
J10
J11
J12
J13
J14
J15
J16
J17
J18
J19
J20
J4
A2 (GFE)
Patch Panel
A1W004 – A1W006
A1
Modem Rack
Modem CASE (A1)
A1W003
A1W002
A1W001
A3 Demarcation
Panel (Modem)
P1
P2
Jacks
J22

Software Additions

- **Version 10.0**
- **GCCS/TBMCS LAN Interface (“Socket J”)**
- **Joint Range Extension**
  - **1553 Interface to Class II (MCE) JTIDS Terminal**
  - **S-TADIL J**
- **TADIL A/B Forwarding**
  - **Certification Test November 2002**
- **TIBS Rev E**

Questions??